

# Cloud Computing & AF Weather Cloud Migration Plan/Initial Observations

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Mr. Rod Grady  
AFLCMC/HBAW

PEO DIGITAL  
AFLCMC/HBAW

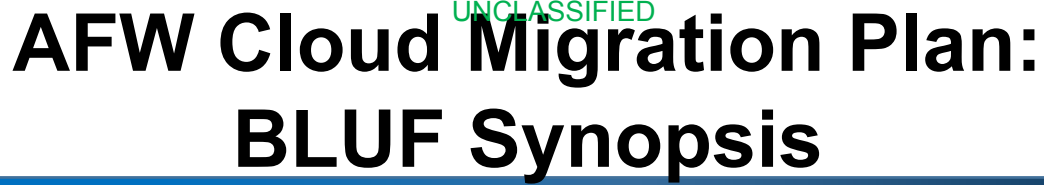



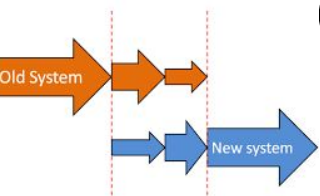
INNOVATE...DEPLOY...WIN

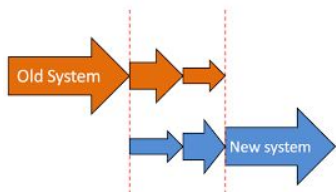
# Cloud Computing Intro

- **The “cloud” is here & now**
  - US CIO, Federal, DoD, & DNI policy & direction
- **Initial focus on efficiencies**
  - Major part in Federal Data Center Consolidation (now the Data Center Optimization Initiative)
- **Now cloud computing viewed as force/capability multiplier to achieve National Defense Strategy goals**
  - *Modernize key capabilities – space & cyberspace*
  - *Develop a ... agile and resilient force posture and employment*
- **Reqs outpacing ability to grow on-premise infrastructure**
- **Cloud enables rapid, scalable solution space**
  - On-premise you can be inefficient; you pay for everything in cloud ... need to be data & processing efficient
- **AF Weather all in!**





- **Migrate all eight Wx Special Purpose Processing Nodes (SPPN) as enterprise project**
    - 6 OWSs, Climatology Center (14 WS) & Offutt (2 WXG)
  - **Vision: Built around a data-centric arch.**
    - Reenvision/consolidate AFW data holdings
    - Utilize true Big Data solutions
      - Enable Artificial Intelligence/Machine Learning apps
    - Apps migrated/developed using CI/CD processes/tools
  - **Cloud services available on six security environments**
    - Using AWS's GovCloud, Secret, C2S, & potential cloud-in-a-box
      - **Phased implementation completion:**
        - Initial focus on non-High Performance Computing (HPC) assets
          - OWSs EOY21
          - 14 WS EOY22
          - Offutt minus cloud forecast & HPC missions EOY25
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# Few Initial Observations / Lessons Learned

UNCLASSIFIED



- **Cost estimate for application migration hard to find**
  - Methodology – created migration analogy based on size of our 1<sup>st</sup> app
  - Used SEER-SEM parameters to create complexity factors for refactor & reenvision efforts using 1<sup>st</sup> app rehost as base
- **Hire SMEs for planning & execution**
  - Growing cloud computing gurus takes time ... we are definitely still learning
- **At AF level, senior level migration suspense's & documentation gave the appearance of maturity**
  - Reality ... we were ahead of process and capability
  - Taken more time than anticipated
- **Challenging balance “cloud agnostic” & power of cloud**
  - Engineers want to go all in ... severless, schemaless
  - Mgmt/arch need flexibility ... abstraction layer for APIs, RBAC, PBAC, etc.; no CSP services CLI, etc.
- **Spend time on data/core srvcs “before” apps migration**
  - Includes expectation mgmt. for developers & leaders ... what to see it now!



# ***Questions?***

